

518, 995
21 DEC 2004

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
31 December 2003 (31.12.2003)

PCT

(10) International Publication Number
WO 2004/002130 A2

- (51) International Patent Classification⁷: **H04N**
- (21) International Application Number:
PCT/US2003/019521
- (22) International Filing Date: 19 June 2003 (19.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/390,810 21 June 2002 (21.06.2002) US
- (71) Applicant (for all designated States except US): **THOMSON LICENSING S.A.** [FR/FR]; 46, Quai A. Le Gallo, F-92648 Boulogne (FR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ZHANG, Junbiao**

[CN/US]; 1003 Sunny Slope Road, Bridgewater, NJ 08807 (US). **LI, Jun** [CN/US]; 26 Orchid Drive, Plainsboro, NJ 08536 (US). **RAMASWAMY, Kumar** [IN/US]; 71 Sayre Drive, Princeton, NJ 08540 (US).

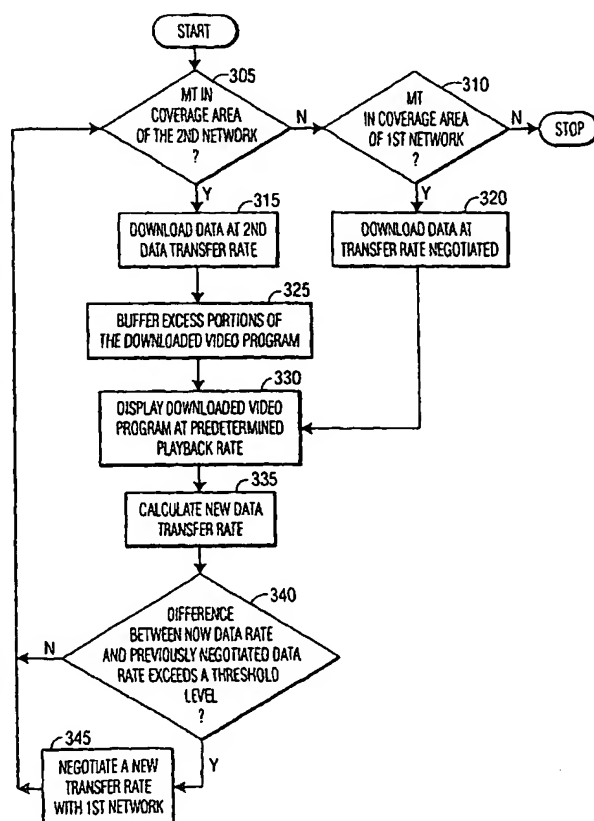
(74) Agents: **TRIPOLI, Joseph, S.** et al.; c/o Thomson Licensing, Inc., Two Independence Way, Princeton, NJ 08540 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: **EVER-DECREASING NETWORK QOS REQUIREMENTS FOR STORED VIDEO STREAMING IN A MOBILE WIRELESS INTERWORKING ENVIRONMENT**



(57) Abstract: A method for downloading and displaying a video program using a mobile terminal in an interworking environment that includes a first radio access network having a first data transfer rate and a second radio access network having a second data transfer rate faster than the first data transfer rate. The video program is downloaded through the first or second networks at the first or second transfer rate, respectively. The downloaded video program is displayed at a predetermined playback rate. Excess portions of the downloaded video program that result when a rate at which the video program is downloaded exceeds the predetermined playback rate are buffered. A third data transfer rate that is lower than the first transfer rate is calculated in response to the predetermined playback rate, the buffered excess portions and the time duration of the remainder of the video program. The third data transfer rate is negotiated with the first network for downloading the video program when the difference between first and third data transfer rates exceeds a threshold level.

WO 2004/002130 A2



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- *without international search report and to be republished upon receipt of that report*